EQ 500

User's Manual

and

Operation Instructions

Version 1.0

Table of Content

Notice

This manual is presented to the users of EQ500 by EverFocus Electronics Corp. With years of engineering researches, EverFocus has spared no effort to provide the high quality products to the worldwide users. For the policy of continual product improvement, EverFocus reserves the right to make changes to the product specifications and documentation without notice. All the components of the products, including accessories, components, and outlook, are based on the agreements of each deals to satisfy all kinds of users. Meanwhile, please be advised that every step of operation must follow the instruction of this manual to keep EQ500 working under the best condition. Please notice that EverFocus will not be charged any claims or renewing cases resulted from inappropriate operation.

Safety Warning

1. Do not expose the camera to humidity and dust.

Moisture can damage the camera and cause the danger of electric shock. If the camera is mounted outdoor, a camera housing is required.

2. Do not disassemble it or place it on an unstable base.

To prevent the electric shock, do not remove screws or covers.

3. Clean the CCD snsor with care.

Never touch the surface of CCD sensor by hand directly. When the camera is not in use, put the cover cap on the lens mount. Use lens tissue or a cotton tippled applicator and ethyl alcohol.

4. Never face the camera toward the sun.

Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise, smear may be occurred.

5. Be sure to operate the camera beyond .

Use proper AC power source otherwise the camera will not function correctly.

Introduction

The EQ500 Series Day/Night Digital Color Camera introduces a new level of high quality picture. are compact , full performance , general purpose color DSP Cameras, which use high sensitive 1/3" interline transfer Super HAD CCDs (Charge Coupled Device). It delivers high resolution superior color images in bright light, and clear sharp monochrome pictures in low light. The evolution 2-in1 intelligent video camera brings your security surveillance system to a new digital era.
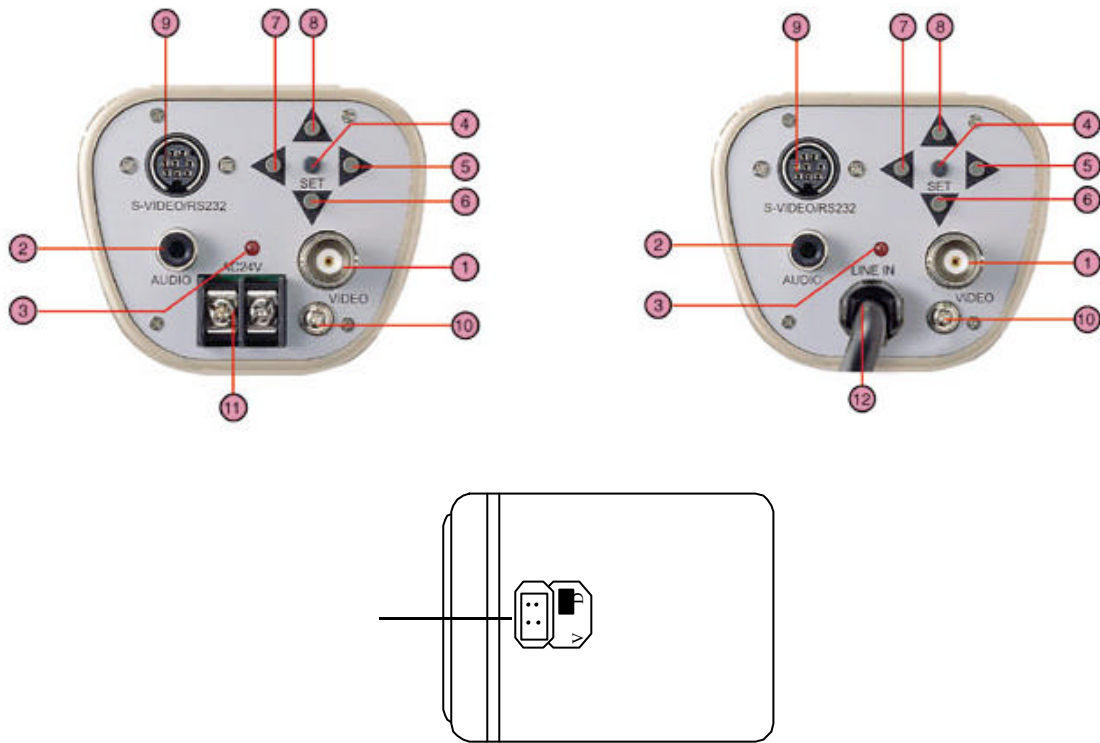
Main Features:

❑ User friendly on-screen set up menu allows ES, AGC, AWB, BLC, and Sync. To be customized program.

❑ Minimum illumination of 1.0 lux with F 1.2 lenses

❑ Signal-to-noise ratio of 48 dB .

❑ Selectable exposure modes including: ES, Manual Exposure, Flickerless, and Auto IRIS.

❑ Programmable camera ID up to 9 characters.

❑ Alarm and video loss detection.

❑ Independent brightness, contrast, color and tint adjustments for each channel.

❑ Programmable auto sequential switching function and adjustable dwelling time (from 1 to 99 seconds).

❑ Built-in timer and title generator.

❑ Alarm input with built-in buzzer.

❑ Alarm records display contains up to 5 records.

Specification

Pickup device:	1/3" interline transfer color CCD
Video format:	NTSC or PAL
Picture element:	NTSC:768 (H) x 494 (V) ; PAL: 752(H) x 582(V)
Scanning system:	NTSC:525 lines, PAL:625 lines(PAL)
Horizontal resolution:	480 TV lines
Sensitivity:	1.0 lux/F=1.2
S/N ratio:	Over 48 dB
Camera ID symbol:	9 characters title generator
Back light comp.:	Yes, 255 levels variable on screen
Auto white balance:	3 Modes selectable
	Standard: 2500　K~9500　K
	Large Frame: 2400　K~11000　K
	No Frame: 2000　K~18000　K
Auto white balance speed:	Stop ~ 14, 15 steps var. on screen
Auto IRIS:	Video Drive or Direct Drive switchable
D/D lens iris level:	Level: L~H, 30 steps var. on screen
Exposure:	4 modes selectable on screen
	ES: 1/60(1/50) ~ 1/100000 sec. AGC Gain: 10~36 dB
	Manual Explosure: 1/60(1/50), 1/100(1/120), 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000 sec.; AGC Gain: 0, 6, 12, 18
	Flickerless: 1/100(NTSC), 1/120(PAL) sec.;
	AGC Gain: 10~36 dB
	Auto IRIS: 1/60(1/50) sec.; AGC Gain: 10~36 dB
Sync. mode:	Internal sync. / Line lock
V Phase adjustment:	Line Phase: 0~300　, 60 steps var. on screen
Gamma correction:	>0.45
Video output:	BNC VBS, 1.0Vp-p, 75 ohm
S-Video:	Mini Dim S-Video, Y: 1.0Vp-p, 75ohm, C: 286mV, 75ohm
Day/Night:	On / Off
Lens mount:	C / CS mount
Power source:	90~265VAC / AC24V
Dimension:	56 x 68 x 101 mm
Operating temperature:	0　to +50
Power consumption:	17W max.

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Major Parts Names and their Functions

Video Output Connector

This connector is used to connect with the VIDEO IN connector of the monitor (Video Out: BNC type).

Audio Output Connector

This connector is used to connect with an audio device (Audio Out: RCA connector).

Power LED Indicator

This indicator lights comes on when the power of this camera is on.

Tact Switcher for Setting

Press the tact switcher to display the setting menu. It is used to activate an item selected in the SET UP menu.

Tact Switcher for Right Cursor

This tact switcher is used to move the cursor to the right for adjusting the parameters of the selected item.

Tact Switcher for Down Cursor

This tact switcher is used to move the cursor to the move the cursor downward for selecting the items of the selected item.

Tact Switcher for Left Cursor

This tact switcher is used to move the cursor to the left for adjusting the parameters of the selected item.

. Tact Switcher for Up Cursor

This tact switcher is used to move the cursor upward for selecting the items of the selected item.

S-Video / RS-232 port

Connecting Mini Dim Male Connector to S-Video / RS-232 port for better video output or communication.

Ground Connector

Connecting to power system ground.

24V AC Input Terminal

This terminal is for connecting the 24V AC power supply cord.

Power Cord Connector

This connector is used to connect the power cord.

Auto Iris Lens Connector

This connector is used to connect with the auto iris lens by a 4-pin male connector.

Mounting The Lens

1. Mount the lens by turning it clockwise on the lens mount of the camera.

2. If you use the Auto Iris lens, connecting the lens cable to the auto iris lens connector on the top of the camera.
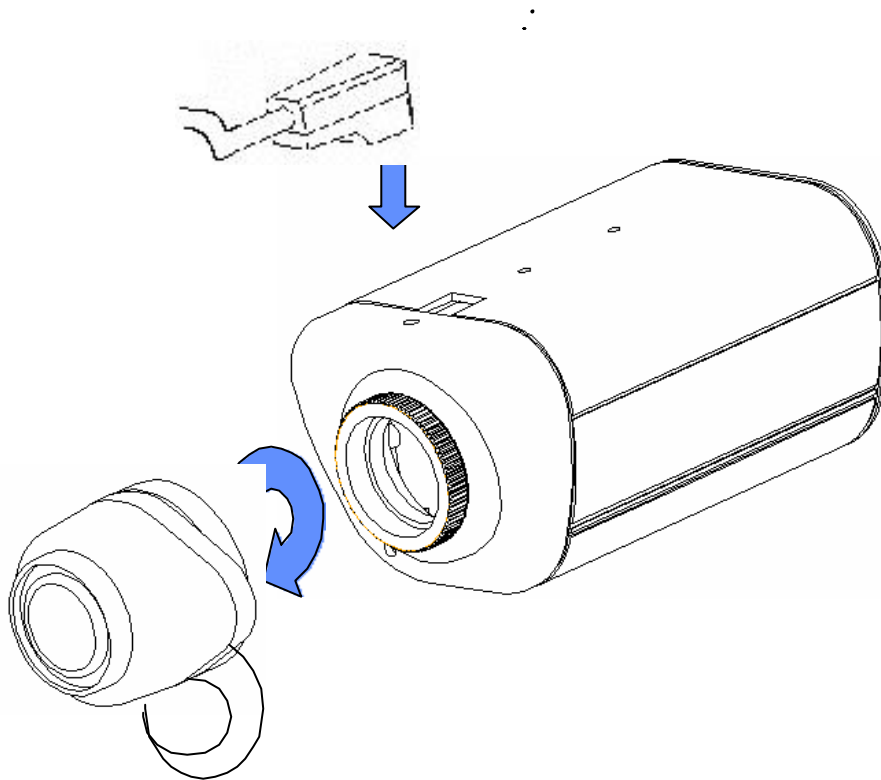
Connections

1. Connecting the AC power cord to an electrical outlet of 90~265 VAC when you use the EQ500 with a power cord.

2. If you use the EQ500 with 24V AC input terminal, please connect the power cord to the terminal on the rear panel of the camera.
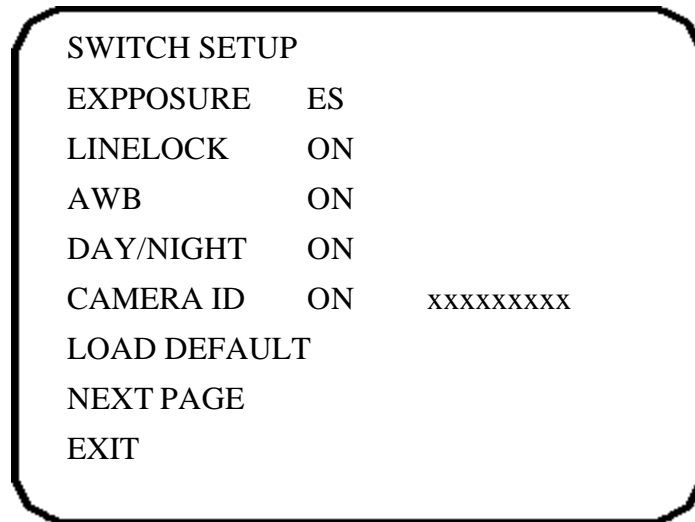
Settings

- **Opening the Set Up Menu**

  Press the ⚫ SET tact switcher to enter main menu shown as below:

  ```
  SWITCH SETUP
  EXPPOSURE     ES
  LINELOCK      ON
  AWB           ON
  DAY/NIGHT     ON
  CAMERA ID     ON     xxxxxxxxx
  LOAD DEFAULT
  NEXT PAGE
  EXIT
  ```

  This page is just for you to set the main function of the camera. If you would like to do more settings, please go through the following pages.
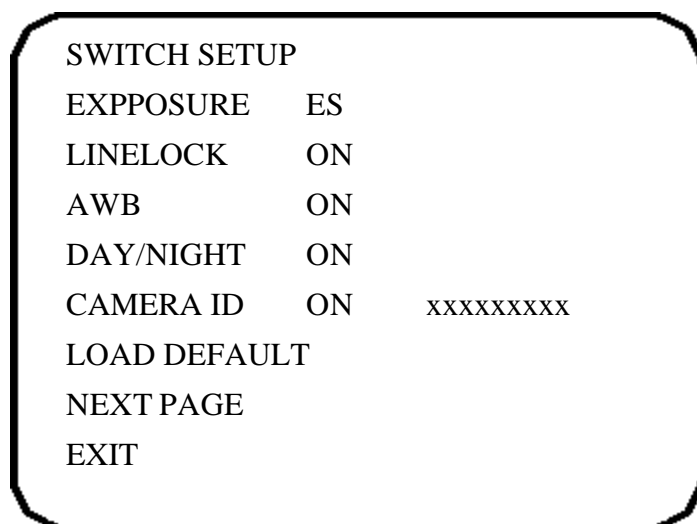
- **Changing the settings**

  Move ▲ and ▼ to select the item you would like to change.
  To change the settings, use ◀ , ▶ to move the cursor to modify the previous settings.

  Check the current settings on the menu appearing on the monitor. If you would not make any changes after checking it, press ▼ to move the cursor to NEXT PAGE or EXIT.

• **EXPOSURE**

1. There are four modes of exposure for you to set on the screen. Use
and ▶ to select the mode. The modes are: Electronics Shutter(ES),
Manual Exposure(ME), Flickerless(FL), and Auto Iris(AI).

2. You can do further setting on next page after selecting one of the
modes.

```
SWITCH SETUP
EXPPOSURE      ES
LINELOCK       ON
AWB            ON
DAY/NIGHT      ON
CAMERA ID      ON      xxxxxxxxx
LOAD DEFAULT
NEXT PAGE
EXIT
```

• **LINELOCK**

1. This item is used to make the vertical phase of the camera video
signal matched to the phase of AC power.
2. Move the cursor to the LINELOCK parameter and press
to select **ON** or **OFF**.

• **AWB**

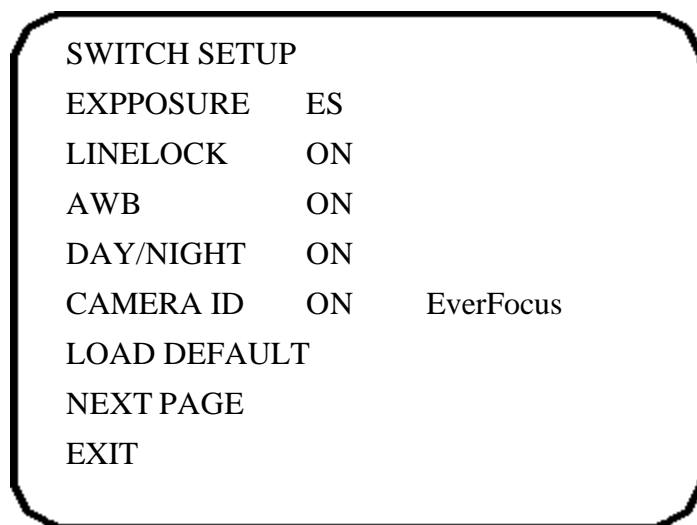1. Normally the AWB(Auto White balance) is set to ON.
2. Just press ◀ or ▶ to change **ON** or **OFF**.

• **DAY/NIGHT**

1. The camera is specially designed to have a clear black and white
picture under low light environment.
2. The default is DAY/NIGHT **ON** for you to install any place where
the light is varying. The camera will be Color and Black/White
switching automatically according the lighting.

- **CAMERA ID**

  1. Press ◀ or ▶ to change the parameter of CAMERA ID. You can use the camera identification(CAMERA ID) to assign a name to each camera when you set the CAMERA ID **ON**.

  2. The camera ID is up to 9 characters. The characters for setting the ID of the cameras are: "Space", "0~9", "a~z", "A~Z". Just press or ▲ ▼ select your necessary characters and then move ◀ ▶ to change the cursor to another position

```
SWITCH SETUP
EXPPOSURE      ES
LINELOCK       ON
AWB            ON
DAY/NIGHT      ON
CAMERA ID      ON      EverFocus
LOAD DEFAULT
NEXT PAGE
EXIT
```

- **LOAD DEFAULT**

  1. Press ● SET to reset the camera to the factory settings.

  2. As soon as the default is loaded, EverFocus VER 1.0 will be shown on the screen.

Caution:

1. You can also press ● SET ▲ ▲ ▼ ▼ together to load default anywhere on the screen display mode.

2. Before "EverFocus VER 1.0" disappeared, please do not disable the power of the camera otherwise the camera will be damaged.

- **NEXT PAGE**

  Move the cursor to NEXT PAGE and the press ● SET to go to NEXT PAGE.

Engineering Settings

The second page is for you to do more settings of exposure. The further setting of each mode is described as below.

- **EXPOSURE ES**

```
EXPOSURE ES
LEVEL<IRE>            60
RESPONSE
SHUTTER LIM          1/500
BLC LEVEL
AGC MAX
AGC MIN
BLC                  ON
AGC                  ON
NEXT PAGE
EXIT
```

1. LEVEL<IRE>

This parameter is for you to adjust the video bright level. The value is high, and then the video is bright.

2. RESPONSE

This is for you to adjust the speed of response. If the value is high, the response speed is less.

3. SHUTTER LIM

The range of ES is 1/60(1/50) ~ 1/100,000 seconds. Under ES mode, you just have to set the maximum shutter speed from 1/500 ~ 1/100,000.

4. BLC LEVEL

This parameter is for you to adjust the BLC level. The value is high, and then the video is bright.

5. AGC MAX

Once the AGC is on, you can do further setting of maximum value of AGC.

6. AGC MIN

Except the maximum value of AGC, you can also set the minimum value of AGC.
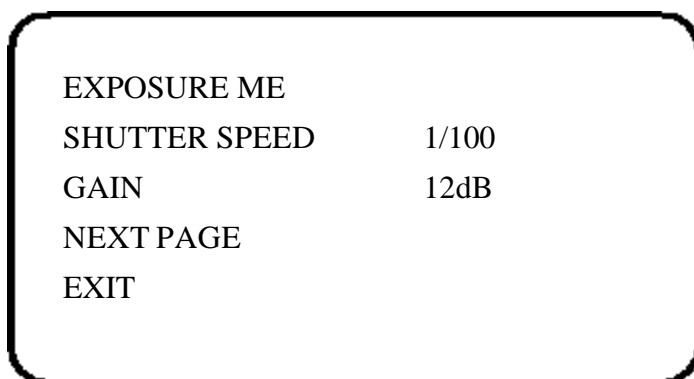
7. BLC

Press ◀ or ▶ to set ON or OFF of Back Light Compensation function.

8. AGC

You can set the gain(brightness level portion of an image) to automatic level adjustment(ON) or fixed level(OFF).

• **EXPOSURE ME**

```
EXPOSURE ME
SHUTTER SPEED        1/100
GAIN                 12dB
NEXT PAGE
EXIT
```

1. SHUTTER SPEED

You can select the manual exposure speed of 1/60(1/50), 1/100(1/120), 1/125, 1/500 by moving ◀ or ▶.

2. Gain

You can select the Gain Control of 0, 6, 12, 18 dB by moving ◀ r ▶

• EXPOSURE AI

```
EXPOSURE AI
D/D LEVEL
AGC MAX
AGC MIN
BLC                    ON
AGC                    ON
NEXT PAGE
EXIT
```

D/D LEVEL

This parameter is for you to adjust bright level of the video. The value is high, and then the video is bright.

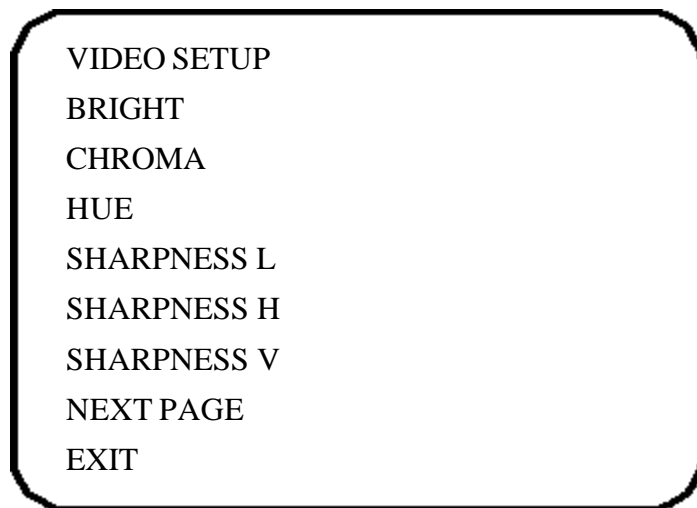AGC MAX, AGC MIN, BLC, and AGC function is the same setting procedure as EXPOSURES ES.

• EXPOSURE FL

```
EXPOSURE FL
BLC LEVEL
AGC MAX
AGC MIN
BLC                    ON
AGC                    ON
NEXT PAGE
EXIT
```

The above parameters are the same setting procedure as EXPOSURE ES.

• VIDEO SETUP

```
VIDEO SETUP
BRIGHT
CHROMA
HUE
SHARPNESS L
SHARPNESS H
SHARPNESS V
NEXT PAGE
EXIT
```

1. BRIGHT

This parameter is for you to adjust the bright of the video.

2. CHROMA

3. HUE

These two items are used to adjust the color of the picture.

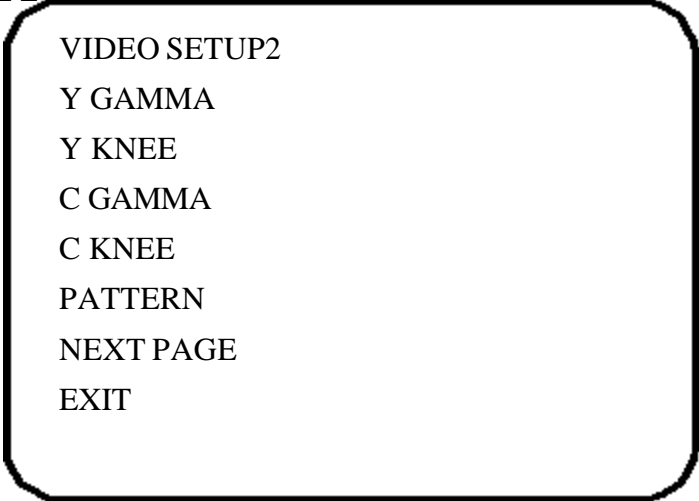### 4. SHARPNESS L

L: Low light condition

5. SHARPNESS H

H: Horizontal

6. SHARPNESS V

V: Vertical

Item 4-6 is for you to get much more sharp picture.

• VIDEO SETUP2

```
VIDEO SETUP2
Y GAMMA
Y KNEE
C GAMMA
C KNEE
PATTERN
NEXT PAGE
EXIT
```

1. Y GAMMA

This parameter is for you to adjust the Y Gamma Correction Curve.

2. CHROMA

3. HUE

These two items are used to adjust the color of the picture.

4. SHARPNESS L

L: Low light condition

5. SHARPNESS H

H: Horizontal

6. SHARPNESS V

V: Vertical

Item 4-6 is for you to get much more sharp picture.

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